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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,353	06/23/2003	Hitoshi Wada	116342	7105

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EXAMINER
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MULLINS, BURTON S

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 05/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/600,353	<b>Applicant(s)</b> WADA ET AL.	
	<b>Examiner</b> Burton S. Mullins	<b>Art Unit</b> 2834	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5 is/are rejected.
- 7) ☒ Claim(s) 4, 6 and 7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

**DETAILED ACTION**

***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted on    was filed after the mailing date of the    on    . The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Ishida (US 5,708,316). Ishida teaches an alternator comprising: a rotor 2; a stator core 5 disposed to oppose the rotor (Fig.2), wherein the stator core is formed with a plurality of slots 33 extending in an axial direction (Fig.3), and each of the slots is defined with a first wall and a

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second wall (not numbered) that oppose each other in a circumferential direction (Fig.3); and a stator winding comprising phase coils 27-29 wound around the stator core (c.1, lines 56-57), wherein the stator winding includes insertion portions (not numbered, see Fig.3) held in the slots and each of the insertion portions has a circumferential width that is smaller than a distance between the first wall and the second wall of the slot (see Fig.3), wherein the insertion portion contacts one of the first wall and the second wall of the slot (see Fig.3), e.g., the insertion portion of phase coil 27 is shown as contacting the left wall of the slot 33 located between tooth 30 and 31.

5. Claims 1 and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by Yasuhara et al. (US 6,548,933). Yasuhara teaches a rotary electric machine comprising: a rotor (not shown, inherent); a stator core 2 disposed to oppose the rotor, wherein the stator core is formed with a plurality of slots 3 extending in an axial direction (Fig.2), and each of the slots is defined with a first wall and a second wall (not numbered) that oppose each other in a circumferential direction (Fig.15); and a stator winding 4 wound around the stator core (Fig.8), wherein the stator winding includes insertion portions (not numbered, Fig.7) held in the slots, and each of the insertion portions has a circumferential width that is smaller than a distance between the first wall and the second wall of the slot (Figs.8&14), wherein the insertion portion contacts one of the first wall and the second wall of the slot (Fig.8).

Regarding claim 5, each winding 4 comprises plural U-shaped conductor segments with first and second insertion portions and a turn portion 5 connecting the first and second insertion portions (c.3, lines 57-62; Fig.7).

6. Claims 1-3 are rejected under 35 U.S.C. 102(e) as being anticipated by Umeda et al. (US 5,994,813). The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131. Umeda teaches an alternator comprising: a rotor 3; a stator core 2 disposed to oppose the rotor (Fig.1), wherein the stator core is formed with a plurality of slots 202 extending in an axial direction (Fig.3), and each of the slots is defined with a first wall and a second wall (not numbered) that oppose each other in a circumferential direction (Fig.3); and a stator winding 20 wound around the stator core, wherein the stator winding includes insertion portions (not numbered, see Fig.3) held in the slots and each of the insertion portions has a circumferential width that is smaller than a distance between the first wall and the second wall of the slot (see Fig.3), wherein the insertion portion contacts one of the first wall and the second wall of the slot (see Fig.3). Regarding claim 2, as seen in Fig.3, each insertion portion of winding 20 has opposed first and second surfaces which face the first and second walls of the slot, respectively. Regarding claim 3, as seen in Fig.3, the insertion portions are rectangular. See also Figs.7-8 embodiment.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being obvious over Umeda et al. (US 5,994,813). The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Umeda's first embodiment generally teaches applicant's invention but does not teach U-shaped conductor segments with first and second insertion portions connected by a turn portion.

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Umeda, however, does teach a second embodiment wherein the stator winding is formed by plural U-shaped conductors 203 each comprising first and second insertion portions 203A connected by a turn portion 203B (Fig.9). Forming the stator winding from such U-shaped conductors enables the manufacturer to provide different hardness in the axial direction to thus reduce vibration (c.4, lines 25-33).

It would have been obvious to modify the conductors in Umeda's first embodiment and provide U-shaped segments per Umeda's second embodiment since this would have been desirable to reduce vibration.

#### *Allowable Subject Matter*

9. Claims 4 and 6-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 4, the prior art does not teach that plural insertion portions alternately contact the first wall and the second wall of the slot. Ishida does not teach plural insertion portions arranged in line along a radius of the core. In Yasuhara, the insertion portions of each coil contact either one or the other slot wall, but not both, and not in an alternating fashion (Fig.8).

Regarding claim 6, the prior art does not teach or suggest that a variability in distance between the first and second insertion portions by resilient deformation of the turn portion, and that the first and second insertion portions contact one of the first and second walls by spring back of the resilient deformation.

*Conclusion*

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Burton S. Mullins whose telephone number is 571-272-2029. The examiner can normally be reached on Monday-Friday, 9 am to 5 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 571-272-2034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Burton S. Mullins  
Primary Examiner  
Art Unit 2834

bsm  
May 15, 2004